

MONTANA SPORT FISH CONSUMPTION GUIDELINES



What you need to know about mercury
and PCBs in Montana's sport fish



What are “sport fish consumption guidelines?”

The Montana Sport Fish Consumption Guidelines provide recommendations on the amount and type of sport fish to eat, how to prepare your catch to minimize health risks, and what special precautions should be taken by high-risk individuals. The guidelines also include a detailed chart that lists all waters in the state that have been tested for the presence of certain environmental contaminants, and provide fish consumption recommendations specific to these waters. Although the guidelines are not regulatory standards, by using them you'll help ensure that the fish you catch can safely be a part of your diet.

The Food and Consumer Safety Section of the Montana Department of Public Health and Human Services (DPHHS) provides additional information on Montana sport-caught or purchased fish. This information is available on-line at the public DPHHS website at: www.dphhs.mt.gov and search for “fish consumption guidelines,” or by calling (406) 444-9777.

The guidelines are generally designed to protect pregnant women, women of childbearing age, children, and anglers who regularly consume fish caught in Montana waters in larger quantities over long periods of time.

What are the health benefits of eating fish?

When properly prepared, fish provide a diet high in protein and low in saturated fats. Many researchers suggest that eating a half-pound of fish each week is helpful in preventing heart disease.

Almost any kind of fish can have real health benefits if eaten as an alternative to a high-fat protein in your diet. You can get the health benefits of fish, and reduce unwanted contaminants, by following these consumption guidelines and cleaning and cooking your catch in ways that reduce fatty tissue.



What are the health risks of eating contaminated fish?

PCBs and methyl mercury build up in body tissue over time. It may take months or years of regularly eating contaminated fish to accumulate levels that could become a health concern.

Methyl mercury Our body can safely metabolize small amounts of consumed methyl mercury, but larger amounts may cause damage to the nervous system. It most severely affects developing fetuses in pregnant women. It is recommended that women of childbearing age avoid those species of fish and seafood known to contain high concentrations of mercury. For women and young children, the FDA currently recommends against eating any shark, swordfish, king mackerel, and tilefish, and also limiting consumption of albacore tuna to one meal per week.

PCBs Dietary exposure to PCBs has been linked to infant development problems in children whose mothers were exposed to PCBs before becoming pregnant. The consumption advice for PCBs is intended to protect children from developmental problems and damage to their immune system. In addition, PCBs are known to cause cancer in laboratory animals and may cause cancer in humans.

What contaminants are found in Montana fish?

Mercury is a widespread and naturally occurring element that concentrates in many soils and rocks. Mercury may also enter Montana waters via household refuse, batteries, mining and industrial wastes, and from burning fossil fuels. Once in a lake, mercury is converted to methyl mercury by bacteria and other processes. Fish absorb methyl mercury into their tissues from their food and from water. There is no method of cooking or cleaning fish that will reduce the amount of mercury in a meal.

Polychlorinated Biphenyls (PCBs) are a group of man-made chemicals once used as lubricants, coolants, and in ink and paint additives. The manufacture of PCBs in the United States was banned in 1977, yet trace levels of PCBs remain in the environment. Everyone is exposed to some PCBs, as they are found everywhere. Fish absorb PCBs from water, sediments, and food. PCBs concentrate in the fat of fish, and other animals. Cleaning and cooking a fish to remove fat will lower the amount of PCBs in a fish meal.

Other metals, pesticides, and organic compounds are present in Montana's fish, but it has not been established that there is a health concern at this time.

For more information, call the Montana Food & Consumer Safety Section at (406) 444-5306 for a free copy of *A Guide to Healthy Eating of the Fish You Catch*.

Reduce your health risk

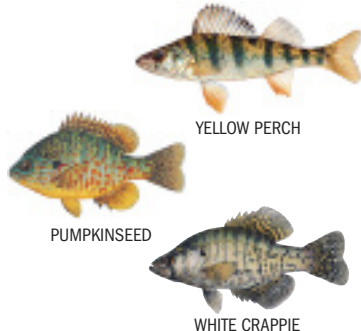
- **Keep smaller fish for eating.** Contamination increases as fish get larger and older. Predatory fish, such as walleye and lake trout, often accumulate more contaminants because they eat other fish. Smaller panfish such as bluegill, crappies, brook trout, and yellow perch usually have low levels of contamination.

Larger and older fish accumulate more contaminants:



Smaller fish typically have lower levels of contaminants:











- **Clean and cook your fish properly.** Certain contaminants build up in a fish's fat deposits and just underneath the skin.

To reduce contaminant levels:

- Fillet the fish.
- Remove the skin.
- Cut away the fatty tissue (back, side, and belly fat).
- Bake or broil the trimmed fish on a rack, or grill it, so the remaining fat drips away.

- **Meal advice for individuals at increased risk.** Children age six and younger, nursing mothers, and women who are pregnant, or might become pregnant, are at greatest risk of adverse health effects, and should be more conservative in their fish-eating habits. The guidelines below apply to fish species in waterbodies not listed on the consumption charts:

|  AVOID |  One meal per month |   One meal per week |   Two meals per week |
|--|--|---|--|
| Walleye over 22" | Walleye less than 22" | | |
| | Lake trout over 21" | Lake trout 15-21" | Lake trout less than 15" |
| | Northern pike over 20" | Pike 15-20" | Pike less than 15" |
| | Bass over 16" | Bass less than 16" | |
| | | Perch | |
| | | Lake whitefish over 16" | Whitefish less than 16" |
| | | Brown trout over 15" | Browns less than 15" |
| | | Rainbow trout over 12" | Rainbows less than 12" |
| | | | Cutthroat trout, kokanee brook trout, sunfish, arctic grayling |

Montana Department of Public Health and Human Services meal guidelines are based on an 8-ounce serving (weight before cooking) for a 150-pound man, and a 6-ounce serving for women of child-bearing age and children age six and younger.

| Location | Species | Person | Size (Length in inches) | | | | | | | Contaminant | |
|--|--|-----------------|-------------------------|-------|-------|-------|-------|-------|-----|-------------|----|
| | | | 6-10 | 10-14 | 14-18 | 18-22 | 22-26 | 26-30 | 30+ | | |
| Hyalite Lake S of Bozeman | Cutthroat trout | ALL | | | | | | | | | |
| Island Lake SE of Libby | Yellow perch | M | 12 | | | | | | | Hg | |
| | | WC | 5 | | | | | | | Hg | |
| Judith River Below Big Spring Cr. | Brown trout | ALL | | | | | | | | | |
| | Rainbow trout | ALL | | | | | | | | | |
| Lake Frances | Walleye | M | | 7 | 3 | 3 | | | | Hg | |
| | | WC | | 3 | 1 | 1 | | | | Hg | |
| Lake Koocanusa | Burbot | M | | | | 11 | | | | Hg | |
| | | WC | 12 | 12 | 11 | 4 | | | | Hg | |
| | Kokanee salmon | M | | | | | | | | | |
| | | WC | 9 | 9 | 10 | | | | | Hg | |
| Lake Mary Ronan | Rainbow trout | ALL | | | | | | | | | |
| | | M | | | | | | | | | |
| | Yellow perch | M | | 11 | | | | | | Hg | |
| | | WC | 11 | 4 | | | | | | Hg | |
| Leigh Lake Cabinet Mountains | Brook trout | M | | | | | | | | | |
| | | WC | 12 | | | | | | | Hg | |
| Lower Stillwater Lake | Yellow perch | ALL | | | | | | | | | |
| | Northern pike | M | | | | | | | | | |
| | | WC | | | 7 | 10 | | | | Hg | |
| Lump Gulch Prickly Pear Drainage | Brook trout | ALL | | | | | | | | | |
| Madison River Hebgen Lake to Quake Lake | Rainbow trout | M | | | | | | | | | |
| | | WC | | 6 | | | | | | | |
| Madison River Quake Lake to Ennis Lake | Brown trout | M | | | | | | | | | |
| | | WC | | | 9 | | | | | Hg | |
| | Rainbow trout | ALL | | | | | | | | | |
| Madison River Below Ennis Lake | Brown trout | M | | | 12 | | | | | Hg | |
| | | WC | | 10 | 4 | | | | | Hg | |
| | Rainbow trout | M | | | | | | | | | |
| | | WC | | 12 | 12 | | | | | Hg | |
| Martinsdale Reservoir | Brown trout | M | | | | 6 | 6 | 6 | | Hg/PCBs | |
| | | WC | 10 | 10 | 6 | 4 | 4 | 4 | | Hg/PCBs | |
| | Rainbow trout | M | | | | | | | | | |
| | | WC | | 12 | 12 | | | | | Hg | |
| Medicine Lake NWR | Northern pike | M | | | | | | 5 | | Hg | |
| | | WC | | | 9 | 8 | 8 | 2 | | Hg | |
| Missouri River Headwaters to Toston | Brown trout | M | | | | | | | | | |
| | | WC | | 8 | | | | | | Hg | |
| | Rainbow trout | M | | | | | | | | | |
| | | WC | | 8 | | | | | | Hg | |
| Mystic Lake South of Bozeman | Brook trout | ALL | | | | | | | | | |
| | Cutthroat trout | M | | | | | | | | | |
| | | WC | | 8 | 8 | | | | | Hg | |
| | Lake trout | M | | | | | | | | | |
| Nelson Reservoir | Walleye | M | | | | 6 | 3 | | | Hg | |
| Noxon Reservoir | Walleye | WC | | 6 | 5 | 2 | 1 | | | Hg | |
| | | Northern pike | M | | | | | | 11 | | Hg |
| | WC | | | | | 7 | 7 | 4 | | Hg | |
| | Black crappie | M | | | | | | | | | |
| | | WC | 10 | | | | | | | Hg | |
| | Lake whitefish | M | | | | 7 | 7 | | | Hg | |
| | | WC | | | 5 | 3 | 3 | | | Hg | |
| | Yellow perch | M | | | | | | | | | |
| | | WC | 11 | 10 | | | | | | Hg | |
| | Ninepipes NWR | Largemouth bass | M | | | 6 | 5 | | | | Hg |
| | | | WC | 7 | 6 | 2 | 2 | | | | Hg |
| | Petrolia Reservoir South of Winnett | Walleye | M | | | 5 | 5 | 1 | | | Hg |
| | | | WC | | | 2 | 2 | | | | Hg |
| | | Northern pike | M | | | | 8 | 8 | 4 | 2 | Hg |
| WC | | | | | | 3 | 3 | 1 | 1 | Hg | |
| Smallmouth bass | | M | | 4 | | | | | | Hg | |
| | | WC | | 1 | | | | | | Hg | |
| Lake whitefish | | M | | | | | | | | | |
| | | WC | | 8 | 7 | 7 | | | | Hg | |
| Yellow perch | M | 5 | | | | | | | Hg | | |
| | WC | 2 | | | | | | | Hg | | |
| Park Lake Southwest of Helena | Arctic grayling | ALL | | | | | | | | | |
| | Cutthroat trout | ALL | | | | | | | | | |
| Petrolia Reservoir South of Winnett | Northern pike | M | | | | | | | | | |
| | | WC | | | | | 6 | | | Hg | |
| Prickly Pear Creek Above East Helena | Brown trout | ALL | | | | | | | | | |
| | Rainbow trout | ALL | | | | | | | | | |
| Seeley Lake | Rainbow trout | ALL | | | | 7 | | | | PCBs | |
| | Mountain whitefish | M | | | | | | | | | |
| | | WC | | 12 | | | | | | Hg | |
| Silver Creek North of Helena | Cutthroat trout | M | 8 | 4 | | | | | | Hg | |
| | | WC | 3 | 1 | | | | | | Hg | |
| Soda Butte Creek Cooke City | Brook trout | ALL | | | | | | | | | |
| | Cutthroat trout | ALL | | | | | | | | | |
| South Sandstone Reservoir North of Baker | Walleye | M | | | | | 2 | | | Hg | |
| | | WC | | | | | | | | Hg | |
| | Northern pike | M | | | 7 | 3 | 3 | | | Hg | |
| | | WC | | | 3 | 1 | 1 | | | Hg | |
| | Yellow perch | M | 11 | | | | | | | Hg | |
| | | WC | 4 | | | | | | | Hg | |
| Swan Lake | Kokanee salmon | M | | | | | | | | | |
| | | WC | 12 | 12 | 12 | | | | | Hg | |
| | Bull trout | M | | | 10 | 9 | 8 | 7 | 5 | Hg | |
| | | WC | | 8 | 4 | 3 | 3 | 3 | 2 | Hg | |
| | Northern pike | M | | | | 9 | 8 | 6 | 5 | Hg | |
| | | WC | | | 6 | 3 | 3 | 2 | 2 | Hg | |
| Lake trout | M | | | | 10 | 8 | 6 | 4 | Hg | | |
| Tenmile Creek West of Helena | Brown trout | ALL | | | | | | | | | |
| Thompson Falls Reservoir | Rainbow trout | ALL | | | | | | | | | |
| | Brook trout | ALL | | | | | | | | | |
| Thompson Falls Reservoir | Yellow perch | M | 12 | | | | | | | Hg | |
| | | WC | 4 | | | | | | | Hg | |
| | Northern pike | M | | | | 12 | 10 | 10 | 9 | Hg | |
| | | WC | | | | 5 | 4 | 4 | 3 | Hg | |
| Tiber Reservoir | Walleye | M | 12 | 7 | 4 | 3 | | | | Hg | |
| | | WC | 4 | 3 | 2 | 1 | | | | Hg | |
| Tongue River Reservoir | Walleye | M | | | 10 | 8 | 6 | | | Hg | |
| | | WC | 8 | 6 | 4 | 3 | 2 | | | Hg | |
| | Northern pike | M | | | | | | | | | |
| | | WC | 8 | 8 | 7 | 7 | 7 | 6 | | Hg | |
| | Smallmouth bass | M | | 11 | | | | | | Hg | |
| | | WC | 9 | 4 | | | | | | Hg | |
| | White crappie | M | 11 | | | | | | | Hg | |
| WC | 4 | | | | | | | | Hg | | |
| Upper Cold Lake Mission Mtns | Cutthroat trout | ALL | | | | | | | | | |
| Upper Two Medicine Lake Glacier National Park | Lake trout | M | | | | | | | | | |
| | | WC | | | 8 | | | | | Hg | |
| Waterton Lakes Glacier National Park | Lake trout | M | | | 12 | 8 | 4 | 4 | 4 | Hg | |
| | | WC | | 7 | 4 | 3 | 1 | 1 | 1 | Hg | |
| | Lake whitefish | M | | | | | | | | Hg | |
| | | WC | | | 9 | 7 | 7 | 7 | 7 | Hg | |
| Lakes west of Continental Divide Within Glacier National Park | Lake trout | M | | | | 9 | 6 | 6 | 5 | Hg | |
| | | WC | | | 6 | 3 | 2 | 2 | 2 | Hg | |
| Lake McDonald Within Glacier National Park | Lake whitefish | M | | | | | | | | Hg | |
| | | WC | | | 8 | 8 | | | | Hg | |
| St. Mary Lake Glacier National Park | Lake trout | M | | | 9 | 9 | 9 | 9 | | Hg | |
| | | WC | | | 3 | 3 | 3 | 3 | | Hg | |
| | Lake whitefish | M | | | | | | | | Hg | |
| | | WC | | | 8 | 8 | | | | Hg | |
| | Burbot | M | | | 11 | 11 | 6 | 6 | | Hg | |
| | | WC | | | 4 | 4 | 2 | 2x | | Hg | |
| Whitefish Lake | Lake trout | M | | | | | 6 | | | Hg | |
| | | WC | | | 8 | 7 | 2 | | | Hg | |
| | Northern pike | M | | | | | | 8 | | Hg | |
| | | WC | | | | | | 3 | | Hg | |
| Lake whitefish | M | | | | | | | | | | |
| WC | | | | | 7 | | | | Hg | | |
| Willow Creek Reservoir | Rainbow trout | ALL | | | | | | | | | |
| Location | Species | Person | Size (Length in inches) | | | | | | | Contaminant | |
| | | | 6-10 | 10-14 | 14-18 | 18-22 | 22-26 | 26-30 | 30+ | | |



ADDITIONAL INFORMATION

For information on the collection and laboratory testing of fish from Montana waters, call Montana Fish, Wildlife & Parks at (406) 444-2449. For additional information on consumption guidelines, call Montana Department of Public Health and Human Services at (406) 444-9777.

Additional copies of this guide can be obtained at all Montana FWP regional offices and outlets where fishing licenses are sold.

You can view an on-line version of this brochure, with updates to the data at: fwp.mt.gov/fishing

